

OIL ANALYSIS REPORT

Sample Rating Trend

(AY398B) Supermarket - Tractor FREIGHTLINER 107A1813

Component Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Eluid

Metal levels are typical for a new component breaking in.

Contamination

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

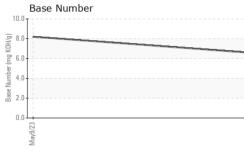
GAL)			May2023	Sep2023		
SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104088	PCA0097061	
Sample Date		Client Info		12 Sep 2023	09 May 2023	
Machine Age	mls	Client Info		45061	29873	
Oil Age	mls	Client Info		15188	16422	
Oil Changed		Client Info		Changed	Not Changd	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	60	32	
Chromium	ppm	ASTM D5185m	>5	3	2	
Nickel	ppm	ASTM D5185m	>2	2	1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	<1	<1	
Aluminum	ppm	ASTM D5185m	>30	29	20	
Lead	ppm	ASTM D5185m	>30	0	<1	
Copper	ppm	ASTM D5185m	>150	257	404	
Tin	ppm	ASTM D5185m	>5	8	8	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	14	22	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	50	65	62	
Manganese	ppm	ASTM D5185m	0	3	2	
Magnesium	ppm	ASTM D5185m	950	891	884	
Calcium	ppm	ASTM D5185m	1050	1446	1360	
Phosphorus	ppm	ASTM D5185m	995	955	972	
Zinc	ppm	ASTM D5185m	1180	1225	1217	
Sulfur	ppm	ASTM D5185m ASTM D5185m		1225 2618	1217 3163	
	ppm					 history2
Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m method ASTM D5185m	2600	2618 current 8	3163 history1 6	
Sulfur CONTAMINAN Silicon Sodium	ppm TS	ASTM D5185m method ASTM D5185m ASTM D5185m	2600 limit/base >20	2618 current	3163 history1 6 3	history2
Sulfur CONTAMINAN Silicon Sodium Potassium	ppm TS ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	2600 limit/base >20 >20	2618 current 8 4 85	3163 history1 6 3 49	history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm TS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	2600 limit/base >20 >20 limit/base	2618 current 8 4 85 current	3163 history1 6 3 49 history1	history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm TS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	2600 limit/base >20 >20 limit/base >3	2618 current 8 4 85 current 1.5	3163 history1 6 3 49 history1 0.8	history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm TS ppm ppm ppm % Abs/cm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	2600 limit/base >20 >20 limit/base >3 >20	2618 current 8 4 85 current 1.5 10.5	3163 history1 6 3 49 history1 0.8 8.7	history2 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm TS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	2600 limit/base >20 >20 limit/base >3	2618 current 8 4 85 current 1.5	3163 history1 6 3 49 history1 0.8	history2 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624	2600 limit/base >20 >20 limit/base >3 >20	2618 current 8 4 85 current 1.5 10.5	3163 history1 6 3 49 history1 0.8 8.7	history2 history2
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624	2600 limit/base >20 >20 limit/base >3 >20 >30	2618 current 8 4 85 current 1.5 10.5 23.4	3163 history1 6 3 49 history1 0.8 8.7 20.9	history2 history2

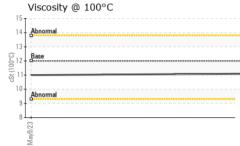
NORMAL



OIL ANALYSIS REPORT

VISUAL





			100/12						
		W	hite Metal	scalar	*Visual	NONE	NONE	NONE	
		Ye	ellow Metal	scalar	*Visual	NONE	NONE	NONE	
			ecipitate	scalar	*Visual	NONE	NONE	NONE	
		Sil		scalar	*Visual	NONE	NONE	NONE	
			ebris	scalar	*Visual	NONE	NONE	NONE	
			and/Dirt	scalar	*Visual	NONE	NONE	NONE	
	/23		opearance	scalar	*Visual	NORML	NORML	NORML	
	Sep 12/23		dor	scalar	*Visual	NORML	NORML	NORML	
			nulsified Water	scalar	*Visual	>0.2	NEG	NEG	
°C			ree Water	scalar	*Visual	20.L	NEG	NEG	
		_			VISUAI		ILC .	NEG	
		F	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
		Vis	sc @ 100°C	cSt	ASTM D445	12.00	11.1	11.0	
		(GRAPHS						
		F	Ferrous Alloys						
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		50 -	iron chromium		and the second se				
		40 -	nickel	and the second se					
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			- Non-ferrous Metal	-		\$			
		450 T	Non-Terrous Metal	5					
		400 -	copper						
		350 -	tin						
		300 -							
	a	250 - 200 -							
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		100							
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		۱ 5 - ۱	Viscosity @ 100°C				Base Number		
						9.0			
		14- 2	Abnormal			8.0			
		13 -	j			(B 7.0 HOX 6.0			
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		2-012 - 12 35 11					h		
		10-	Abnormal			4.0 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			
		10-	Abnormal		_	1.0			
		10- 9- 8				1.0			123
		10-				1.0			Sep12/23 -
	Laboratory Sample No. Lab Number Unique Number	: W : PC : 05 : 10	/earCheck USA - 5 CA0104088 1 5958450 1 0659663 1	01 Madia Received Diagnosi	d : 22 : ed : 22 :	0.0 9.0 Sep 15/23	Map9/23	60	upermarket-Dayton) A Tower Road Dayton, NJ US 08810
Certificate Laso7	Laboratory Sample No. Lab Number Unique Number Test Package	: W : PC : 05 : 10 : FL	/earCheck USA - 5 CA0104088 F 5958450 F 0659663 F LEET	Received Diagnose Diagnost	d : 22 ; ed : 22 ; iician : We	ry, NC 27513 Sep 2023 Sep 2023 s Davis	Map9/23	60 Conta	upermarket-Dayton) A Tower Road Dayton, NJ US 08810 act: Brian Quinn
To discuss this	Laboratory Sample No. Lab Number Unique Number Test Package s sample report, o	: W : P(: 05 : 10 : FL conta	/earCheck USA - 5 CA0104088 1 5958450 1 0659663 1	Received Diagnose Diagnost	d : 22 3 ed : 22 3 ician : We	ry, NC 27513 Sep 2023 Sep 2023 s Davis	Map9/23	60 Conta	upermarket-Dayton) A Tower Road Dayton, NJ US 08810